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in the boxes respectively associated with citation numbers 10A-13A, though the boxes associated with the other references were initialized. Applicant respectfully requests that the Examiner consider references 10A-13A (if not already considered), initialize the corresponding boxes, and send a revised copy of the 1449 Form to the Applicant with the next communication.

Rejection of Claims 1, 4-5, 8-13, 15-22 and 24-56 over U.S. Patent No. 6,169,049 in view of U.S. Patent No. 4,643,984

The Office Action rejected claims 1, 4-5, 8-13, 15-22 and 24-56 under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 6,169,049 (Witham) in view of U.S. Patent No. 4,643,984 (Abe).

The Office Action states that Witham discloses a process of heat treating barium titanate particles whereby the particles are increased in size (see Table 2 in column 6, lines 18-24). The Office Action further states that it would have been obvious to one of ordinary skill in the art to adjust the A/B ratios of the compositions of Witham as taught by Abe.

Applicant respectfully disagrees that one of ordinary skill in the art would have been motivated to adjust the A/B ratio of the compositions disclosed in Witham that are subjected to a heat treating step that increases particle size as suggested in the Office Action.

Witham discloses a process that involves coating barium titanate particles with bismuth which lowers the sintering temperature and improves dielectric characteristics. Presumably for comparison purposes, Witham does heat treat barium titanate powders at 800 °C and measure the resulting increase in particle size (See Table 2). However, the coating process disclosed in Witham uses barium titanate powders that are *not heat-treated* to form dielectric materials, rather than the heat-treated powders (e.g., See column 3, lines 54-55). (Emphasis added). In fact, Witham does not further process the heat-treated powders.

Because the heat-treated powders in Witham are not processed to form any type of dielectric material (such as capacitors), one of ordinary skill in the art would not have been motivated to adjust the A/B ratio of the heat-treated compositions for use in dielectric capacitors as suggested in the Office Action. Moreover, there is no teaching in any of the cited references that provides such motivation. Combining the references in the manner suggested in the Office Action, therefore, involves impermissible hindsight.

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Independent claims 1 and 46 both include a heat treatment step and an A/B ratio adjustment step. Because one of ordinary skill in the art would not have been motivated to modify the Witham process to include an A/B ratio adjustment step, a prima facie case of obviousness has not been met with respect to these claims. Accordingly, independent claims 1 and 46, and their respective dependent claims, are not obvious in view of the combination of Witham and Abe.

Applicant also respectfully disagrees that Witham teaches the recitation of independent claims 19 and 46 of heating a barium titanate based particulate composition to form a heat-treated particulate composition having an average particle size of at least 50% greater than an average particle size of the barium titanate based particulate composition as suggested in the Office Action. None of the heat-treated powders of Witham have an average particle size that is greater than 50% of the average particle size of the powder prior to heat treatment (See Table 2, e.g., Cabot BT-10B; room temperature particle size = 99.2 nanometers, heat-treated particle size = 121.3 nanometers, percent greater heat-treated particle size compared to room temperature particle size = 22%). Therefore, even if Witham is combined with Abe in the manner stated in the Office Action, the proposed combination fails to teach or suggest this recitation of independent claims 19 and 46.

Because each claim recitation is not taught or suggested by the combination of Witham in view of Abe, a prima-facie case of obviousness has not been met for these independent claims and their respective dependent claims. Accordingly, independent claims 19 and 46, and their respective dependent claims, are not obvious in view of the combination of Witham and Abe for this reason as well.

Furthermore, Witham fails to teach or suggest the recitation of independent claim 33 of heating the barium titanate-based composition at a temperature between about 900 °C and about 1110 °C to form a heat-treated particulate composition. Therefore, the combination of Witham in view of Abe fails to teach or suggest this recitation of independent claim 33. Because each claim recitation is not taught by the combination of Witham in view of Abe, a prima-facie case of obviousness has not been met for these independent claims and their respective dependent claims. Accordingly, independent claim 33, and its respective dependent claims, are not obvious in view of the combination of Witham and Abe for this reason as well.

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For at least these reasons, Applicant respectfully requests withdrawal of the rejection of claims 1, 4-5, 8-13, 15-22 and 24-56 as being unpatentable over Witham in view of Abe.

Rejection of claims 1, 2, 4-13, 15-22 and 24-56 over U.S. Patent No. 4,929,574 in view of Witham and Abe

The Office Action rejected claims 1, 2, 4-13, 15-22 and 24-56 under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 4,929,574 (Iltis) in view of Witham and Abe.

The Office Action states that it would be obvious to one of ordinary skill in the art to produce the particles used in Iltis in a hydrothermal process as taught by Witham. The Office Action further states that it would have been obvious to one of ordinary skill in the art to adjust the A/B ratio, as taught by Abe, of the Iltis particulate compositions to prepare compositions having strict ratios when the material is to be used as a highly dielectric capacitor.

Applicant respectfully disagrees that one of ordinary skill in the art would have been motivated to produce the particles used in Iltis in a hydrothermal process as suggested in the Office Action. None of the cited references suggest the desirability of this modification. Combining the references in the manner suggested in the Office Action, therefore, involves impermissible hindsight. Because nothing suggests that one of ordinary skill in the art would have been motivated to hydrothermally produce the particles used in Iltis, a prima facie case of obviousness has not been met for independent claims 1, 19 and 33 (and their respective dependent claims) which include the step of hydrothermally producing the particles.

Applicant also respectfully disagrees that one of ordinary skill in art would have been motivated to adjust the A/B ratio of the heat-treated compositions disclosed in Iltis as suggested in the Office Action. Iltis fails to suggest any need for further A/B ratio adjustment after particle production. Absent that need, there is no motivation to modify the process of Iltis to include a further processing step of adjusting the A/B ratio. For these reasons, a prima facie case of obviousness has not been met for independent claims 1 and 46 (and their respective dependent claims) which include the step of adjusting the A/B ratio of the particles.

Accordingly, Applicant respectfully requests withdrawal of the rejection of claims 1, 2, 4-13, 15-22 and 24-56 as being unpatentable over Iltis in view of Witham and Abe.

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Rejection of claims 1, 2, 4-13, 15-22 and 24-56 over U.S. Patent No. 5,155,072 taken with *High Performance Multilayer Capacitor Dielectric From Chemically Prepared Powders* in view of Abe under 35 U.S.C. §103(a)

The Office Action rejected claims 1, 2, 4-13, 15-22 and 24-56 under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 5,155,072 taken with *High Performance Multilayer Capacitor Dielectric From Chemically Prepared Powders* (collectively, the Bruno references) in view of Abe. The Office Action states that one of ordinary skill in the art would have been motivated to modify the process of the Bruno references to hydrothermally produce barium titanate powder and to adjust the A/B ratio of the barium titanate powder composition as taught by Abe.

Applicant respectfully disagrees that one of ordinary skill in the art would have been motivated to modify the Bruno references to produce barium titanate particles hydrothermally as suggested in the Office Action. None of the cited references suggest the desirability of this modification. Combining the references in the manner suggested in the Office Action, therefore, involves impermissible hindsight. Because nothing suggests that one of ordinary skill in the art would have been motivated to hydrothermally produce the particles used in the Bruno references, a prima facie case of obviousness has not been met for independent claims 1, 19 and 33 (and their respective dependent claims) which include the step of hydrothermally producing the particles.

Applicant also respectfully disagrees that one of ordinary skill in the art would have been motivated to adjust the A/B ratio of the heat-treated compositions disclosed in the Bruno references as suggested in the Office Action. Bruno fails to suggest any need for A/B ratio adjustment after particle production. Absent that need, there is no motivation to modify the process of Bruno to include a further processing step of adjusting the A/B ratio. Therefore, a prima facie case of obviousness has not been met for independent claims 1 and 46 (and their respective dependent claims) which include the step of adjusting the A/B ratio of the particles.

For at least the reasons discussed above, Applicant respectfully requests withdrawal of the rejection of claims 1, 2, 4-13, 15-22 and 24-56 as being unpatentable over the Bruno references in view of Abe.

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Accordingly, withdrawal of this rejection is respectfully requested.

Newly Added Claims

Applicant has added claims 57-64. These claims depend from claims which are patentable over the cited references for at least the reasons discussed above. Accordingly, these new claims are also patentable over the cited references.

CONCLUSION

In view of the foregoing amendments and remarks, this application should now be in condition for allowance. A notice to this effect is respectfully requested. If the Examiner believes, after this amendment, that the application is not in condition for allowance, the Examiner is requested to call the Applicant's attorney at the telephone number listed below.

If this response is not considered timely filed and if a request for an extension of time is otherwise absent, Applicant hereby requests any necessary extension of time. If there is a fee occasioned by this response, including an extension fee, that is not covered by an enclosed check, please charge any deficiency to Deposit Account No. 23/2825.

Respectfully submitted,
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